



m. Worn or damaged primary drive gear.

5. A rapid on-off squeal may indicate a compression leak around the cylinder head gasket or spark plug.

### CYLINDER LEAK DOWN TEST

A cylinder leak down test can determine if an engine problem is caused by leaking valves, a blown head gasket, or broken, worn or stuck piston rings. Perform a cylinder leak down test by applying compressed air to the cylinder and then measuring the percent of leakage. A cylinder leak down tester and an air compressor are required to perform this test (**Figure 21**). Follow the tester manufacturer's directions along with the following information when performing a cylinder leak down test.

1. Start and run the engine until it reaches normal operating temperature. Then turn the engine off.
2. Remove the air filter assembly as described in Chapter Three. Open and secure the throttle in the wide-open position.
3. Remove the spark plug.
4. Position the piston at TDC on the compression stroke. See *Valve Clearance Check and Adjustment* in Chapter Three.

### NOTE

*The engine may turn when air pressure is applied to the cylinder. To prevent this from happening, shift the transmission into fifth gear and set the parking brake.*

5. Connect the cylinder leak down tester into the spark plug hole (**Figure 22**).
6. Make a cylinder leak down test following the tester manufacturer's instructions. Listen for air leaking while noting the following:
  - a. Air leaking through the exhaust pipe indicates a leaking exhaust valve.
  - b. Air leaking through the carburetor indicates a leaking intake valve.
  - c. Air leaking through the crankcase breather tube indicates worn piston rings.
7. A cylinder with 10% or more cylinder leakage requires further service.
8. Remove the tester and reinstall the spark plug.

### CLUTCH

All clutch service, except adjustment, requires partial engine disassembly to identify and fix the problem. Refer to Chapter Six.

The TRX350 uses two clutch assemblies: centrifugal (A, **Figure 23**) and change (B).

### Clutch Slipping

1. Clutch wear or damage:
  - a. Incorrect clutch adjustment.
  - b. Worn clutch shoe (centrifugal clutch).
  - c. Loose, weak or damaged clutch spring (change and centrifugal clutch).
  - d. Worn friction plates (change clutch).
  - e. Warped steel plates (change clutch).
  - f. Worn clutch center and/or clutch outer (change clutch).
  - g. Incorrectly assembled clutch.
2. Engine oil:
  - a. Low oil level.
  - b. Oil additives.
  - c. Low viscosity oil.

### Clutch Dragging

1. Clutch wear or damage:

- a. Incorrect clutch adjustment.
  - b. Damaged or incorrectly assembled clutch lever assembly.
  - c. Warped steel plates.
  - d. Swollen friction plates.
  - e. Warped pressure plate.
  - f. Incorrect clutch spring tension.
  - g. Incorrectly assembled clutch.
  - h. Loose clutch nut.
  - i. Incorrect clutch mechanism adjustment (change clutch).
2. Engine oil:
    - a. Oil level too high.
    - b. High viscosity oil.

### Rough Clutch Operation

1. Damaged clutch outer slots (change clutch).
2. Damaged clutch center splines (change clutch).
3. Incorrect engine idle speed.

### Transmission is Hard to Shift

1. Clutch wear or damage:
  - a. Incorrect clutch adjustment.
  - b. Damaged clutch lifter mechanism.
2. Damaged shift drum shifter plate.

## TRANSMISSION

Transmission symptoms can be difficult to distinguish from clutch symptoms. Make sure the clutch is not causing the problem before working on the transmission.

Transmission gears on FM and TM models are manually shifted using a conventional foot lever. On FE and TE models, the transmission gears are shifted using an electric motor that rotates the shift shaft through a set of reduction gears. (Refer to Chapter Nine).

### Faulty Electric Shifting (2000-2002 FE and TE Models)

Before following a troubleshooting procedure, determine if the shifting problem is due to the electric shifting system or internal shift components. Install the emergency manual shift lever (**Figure 24**). With the ignition switch *off*, attempt to shift the gears.



### CAUTION

*Only use the manual shift lever for emergency or troubleshooting purposes. Continued use may cause internal damage to the master shift arm. Do not operate the manual shift lever while operating the ATV. The lever must be hand-operated and never operated using a foot.*

### NOTE

*It may be necessary to move the ATV backward or forward to engage gears while using the manual shift lever.*

### NOTE

*If the electric shift will not operate after the manual shift lever was used, turn the ignition switch off and on to recycle the ECU.*

If the gears shift, follow the electric shift troubleshooting procedure. If the gears cannot be shifted using the manual lever, refer to the possible causes in the following sections.

The electric control unit (ECU) controls the shift mechanism. Refer to Chapter Nine. The ECU can detect faults and will enter a *failure mode* if a problem exists. In the failure mode, the electric system is disabled and will not function. The ECU on 2000-2002 models does not display a trouble code or provide a means to identify a problem. The ECU leaves the failure mode and resets automatically when the ignition switch is turned off, but will return to the failure mode if the problem persists when the ignition switch is turned back on.

Refer to the chart in **Figure 25** when troubleshooting electric shifting related transmission problems. Note the following:

Copyright of Honda TRX350 RANCHER, 2000-2006 is the property of Penton Media, Inc. ("Clymer") and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.